ABSTRACT

Methods and compositions useful for targeting and treating target tissues affected by or involved in metabolic bone disorders and bone metastases with photodynamic therapy (PDT) in a mammalian subject are provided. The compositions are biphosphonates, pyrophosphates, or biphosphonate-like compounds conjugated to photosensitive agents which are optionally further conjugated to ligands which are target tissue specific antibodies, peptides, or polymers. The method of PDT treatment utilize these compositions to target the tissues or cells of a mammalian subject to be treated. The methods include irradiating at least a portion of the subject with light at a wavelength absorbed by said photosensitizing agent that under conditions of activation during photodynamic therapy using a relatively low fluence rate, but an overall high total fluence dose results in minimal collateral tissue damage.